

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.**

<i>In the Matter of</i>)	
)	
Service Rules for Advanced Wireless)	
Services in the 1915-1920 MHz, 1995-2000)	WT Docket No. 04-356
MHz, 2020-2025 MHz and 2175-2180 MHz)	
Bands)	
)	
Service Rules for Advanced Wireless)	WT Docket No. 02-353
Services in the 1.7 GHz and 2.1 GHz Bands)	

EX PARTE COMMENTS OF 3G AMERICAS

3G Americas, LLC (“3G Americas”) represents manufacturers and service providers with an interest in the GSM family of wireless technologies¹ in the Americas. Its primary mission is to promote the evolution to and seamless deployment of third generation technology throughout the Americas.

3G Americas submits these Comments primarily in response to the H-Block proposal submitted by Sprint, Verizon and Nextel (SVN), which seeks new and more stringent out-of-band emission (OOBE) limits in the *existing* PCS bands.² While 3G Americas, like SVN, believes that existing personal communication services (PCS) must be protected from interference, the SVN proposal would disadvantage the millions of consumers who use the GSM

¹ GSM, GPRS, EDGE, UMTS, and HSDPA.

² See Joint Reply Comments of Sprint Corporation, Verizon Wireless and Nextel Communications, WT Docket no. 04-365 (“Sprint-Verizon-Nextel Reply”).

family of technologies, the service providers (like Cingular and T-Mobile) who rely on those technologies, and the manufacturers (like Motorola, Texas Instruments and Nokia) who develop those technologies. 3G Americas believes the Commission should adopt technology neutral H-block rules that are aligned with the Commission's proposals in this proceeding, and should not now revisit the rules that apply in the existing PCS bands.³ 3G Americas also urges the Commission to adopt a PCS regulatory and licensing framework in the band that is generally consistent with the current Part 24 rules.

DISCUSSION

As the Commission knows, a variety of technologies are used in the United States to provide mobile services using the PCS frequencies in the 1900 MHz range. Indeed the robustly competitive U.S. wireless market – and the technology neutral approach of this Commission – has helped drive the extraordinary technological advancement of the various wireless technologies. As a result, the GSM family is among those technologies thriving in the U.S. market. In the United States, well over 50 million people already use GSM, GPRS, EDGE or UMTS technologies⁴ – and the number is growing quickly.

Since the inception of PCS in the early '90s, PCS operators have enjoyed a 20 MHz low-power “guard band”⁵ between mobile transmit/base station receive channel

³ See *Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands; Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, Notice of Proposed Rulemaking, 19 FCC Rcd 19263 (2004) (“NPRM”).

⁴ Today, over one billion people use GSM technologies around the world. The global market share for GSM technologies is 72 percent. In the fourth quarter of 2004, there were about 50 million U.S. mobile phone subscribers using GSM technology, reflecting a one year increase of 76%. See <http://3gamericas.org/English/Statistics/2004/usa.cfm>.

⁵ Until recently, the entire 20 MHz “guard band” was designated for “unlicensed” PCS or U-PCS. However, when the Commission provided for U-PCS operations, it adopted technical rules designed

blocks and base station transmit/mobile receive channel blocks. As the Commission intended, PCS handsets are built specifically to take advantage of this frequency separation.⁶ The Commission's H-block proposal – where mobile services, fixed services or both will operate in this “guard band” – will surely affect the RF environment for existing PCS operations.

The major PCS carriers have had a uniform and understandable reaction to the Commission's H-block proposal. They asked that any H-block service rules protect existing PCS operations. The Commission did not suggest otherwise. It noted that transmissions in the H-Block could “cause harmful interference to services operating in adjacent spectrum bands.” Thus it promised to “examine services operating above and below” the H-block and “propose technical criteria to protect those services from such interference.” The Commission noted a particular concern “about potential interference from handsets transmitting in the 1915-1920 MHz band to PCS handsets receiving in the 1930-1990 MHz band.”⁷ 3G Americas shares the Commission's concern. It believes that the H-block service rules must protect existing PCS users and systems and that H-block technical rules should provide a technology neutral RF environment for all PCS technologies.

specifically to ensure existing microwave operations would be protected. Consequently, the Commission adopted U-PCS power levels that were relatively low. *See Amendment of the Commission's Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range, Report and Order*, 12 FCC Rcd. 1576 (1997).

⁶ *See In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services*, Memorandum Opinion and Order, 9 FCC Rcd. 4957 (1994) at ¶¶26-27.

⁷ NPRM at ¶86.

I. The SVN Proposal Disadvantages GSM Technology and Should be Rejected

The SVN proposal suggests putting stringent new OOB limits on H-block operations to protect existing PCS services. But, oddly, it goes on to suggest that these new OOB limits also be imposed on the existing 1930-1990 MHz broadband PCS band.⁸ But as SVN knows, current GSM handsets do not meet these proposed OOB limits, while the CDMA handsets they use do. Despite the claims to the contrary, therefore, there is nothing “technology neutral” about the SVN proposal. By imposing technical requirements that cannot be met by existing GSM handsets, which would then have to be replaced, the SVN proposal would needlessly impose tens of millions of dollars of costs on the service operators and consumers who use the GSM family of technologies.

The SVN proposal is also at odds with both the Commission’s proposals and established Commission spectrum management principles. In the NPRM, the Commission was clear that it intended to protect existing services – and by this it plainly meant not imposing unnecessary new burdens on those services.⁹ Further, a fundamental principle of Commission spectrum management policy has always been that when enabling new services, the Commission will ensure that existing services are not unduly burdened. The SVN proposal, however, would impose stunning new burdens on many PCS operators and millions of PCS consumers. Almost as bad, the SVN proposal would have the Commission initiate a proceeding to – in effect – design by regulation the next

⁸ The 1930-1990 MHz band is used as a receive band for PCS mobile handsets.

⁹ See e.g. NPRM at ¶¶12,86.

generation of GSM PCS equipment.¹⁰ 3G Americas believes the Commission should simply adopt rules that will make H-Block use compatible with existing broadband PCS.¹¹ There is no need to go back and re-engineer the PCS band rules, and many reasons not to do so.¹²

II. H-Block Technical Rules Should Protect Existing PCS Services

As noted, there is almost universal agreement that technical limits applied to the H-block should provide protection to existing PCS services. Not surprisingly, however, the record reflects different views on the level of protection needed.

Two parameters are key to protecting 1930-1990 MHz PCS operations – the EIRP limit and the OOB limit. Some parties believe the Commission's proposed OOB limits are too liberal. However, other parties prefer liberal H-block limits so that the bands can be used in much the same manner as current PCS bands. Likewise there are differences in views on EIRP limits.¹³ In light of the sheer numbers of consumers who currently rely on PCS services, 3G Americas believes the Commission should adopt, and adopt quickly, appropriate EIRP and OOB limits for H- block. Quickly adopting appropriate limits will both protect the millions of customers now relying on PCS service,

¹⁰ See Sprint-Verizon-Nextel Reply Attachment at page 2.

¹¹ As CTIA aptly noted in its reply comments (referring to the base of broadband PCS mobile devices), “There is no dispute that these units, as well as those in the delivery pipeline and in manufacturing facilities, were designed when the 1915-1920 MHz band was designated for unlicensed use and posed no practical risk of interference into the PCS mobile receive band.” CTIA Reply Comments at 13.

¹² Among those reasons is that SVN’s proposal is outside of the scope of this proceeding. The Commission neither suggested nor contemplated changing existing PCS technical rules in this proceeding, thus even if it wanted to adopt the SVN proposal it could not do so. The Administrative Procedures Act requires, of course, that the Commission give proper notice of proposed rule changes through publication in the Federal Register. See 5 U.S.C. §553(b).

¹³ Parties also hold different views on appropriate EIRP limits for the lower H-Block. Whatever EIRP the Commission ultimately adopts, it should be chosen so as to limit receiver overload and intermodulation interference to 1930-1990 MHz PCS operations.

and create certainty for potential H-block operators who will be quickly able to plan service offerings and develop equipment.

A. EIRP Limits

Some parties support the Commission's 200 mW EIRP proposal, but only if the limit corresponds to an average value.¹⁴ Others, however, support a "graduated" EIRP limit where a lower limit applies in the upper part of the 1915-1920 MHz H-Block, ostensibly to protect PCS mobile receivers at 1930-1990 MHz.¹⁵ Since both CDMA and GSM technologies are likely to be used in H-Block bands, 3G Americas believes an average measurement value is more appropriate since it would accommodate both technologies. An average measurement would accommodate CDMA technology where the measured power levels are essentially constant, as well as GSM technology where there are power "peaks" and power "valleys."

In addition, the EIRP limit adopted for H-Block mobile handsets should not be so high that the front end of 1930-1990 MHz PCS mobile receivers is overloaded.¹⁶ The Commission should select a limit that minimizes desensitization of 1930-1990 MHz PCS mobile receivers. Minimizing receiver desensitization will also minimize the reduction in PCS base station coverage range and avoid the resulting need to increase the number of PCS cell sites to achieve equivalent coverage.¹⁷ Further, as some parties point out, co-

¹⁴ For example, see T-Mobile Comments at 19.

¹⁵ See e.g., Sprint-Verizon-Nextel Comments at Attachment.

¹⁶ See e.g., Motorola Comments at 4, T-Mobile Comments at 6.

¹⁷ See T-Mobile Comments at 10 (referencing a CTIA analysis of H-Block interference).

existence criteria (including EIRP limits) should be based on a handset-to-handset separation distance of no greater than 1 meter.¹⁸

B. OOBE Limits

The record in this proceeding reflects a general consensus on several elements of an OOBE limit. First, whatever limit is chosen should be such that existing 1930-1990 MHz PCS mobile receivers are protected.¹⁹ Second, OOBE limits applied to the H-Block should be in accordance with industry standards.²⁰ Some parties believe the Commission's proposed H-Block OOBE limits of -60 dBm/MHZ (for protecting handsets at 1930 MHz at a separation distance of 2 meters) or, alternatively, - 66 dBm/MHZ (for protecting handsets at 1930 MHz at a separation distance of 1 meter)²¹ will result in interference to 1930-1990 MHz PCS mobile receivers. 3G Americas believes that the Commission should adopt more stringent OOBE limits for H-block. As stated above, whatever OOBE limits are adopted should align with current industry practice where typical OOBE attenuation is around -61 dBm/MHz for GSM equipment and around -76 dBm/MHz for CDMA equipment.²²

¹⁸ See e.g., Motorola Comments at 5. Anyone who has stood on line at a movie theater or sandwich shop has likely observed that handset-to-handset separation distances of less than 1 meter are not uncommon.

¹⁹ See e.g., Motorola Comments at 2, Cingular Reply Comments at 3, T-Mobile Comments at 5.

²⁰ See e.g., Motorola Reply Comments at 4.

²¹ NPRM at ¶91.

III. The PCS Regulatory Framework Should Be Used For H-Block

In the NPRM, the Commission proposed to regulate H-Block pursuant to Part 27 of its rules. The Commission reasoned that since it proposed to permit flexible use of H-Block, the “flexible regulatory framework” of Part 27 would be appropriate.²³

While this proposal is understandable, parties with an interest in H-Block overwhelmingly urged the Commission to use the PCS rules found in Part 24. First, since H-block spectrum is adjacent to exiting PCS spectrum, it is most likely going to be used for PCS operations.²⁴ Second, manufacturers who desire to make equipment capable of operating in both H-Block and existing PCS bands want to be subject to a single equipment authorization regime.²⁵ A single regime would create far fewer administrative burdens for manufacturers (and the Commission). Third, the PCS rules are well crafted and the interested parties believe that Part 24 is sufficiently flexible to let them provide the services they envision.

3G Americas understands the Commission’s reasoning for proposing to regulate H-Block under Part 27. But there are clear benefits to incorporating the H-Block rules in Part 24 by adding H-Block specific rule sections as needed, or by creating an “H-Block” subpart. The Commission ought to do so.

IV. The Commission Should License H-Block in PCS-Like Service Areas

In deciding how to license H-Block, it would make little sense to ignore the obvious fact that the spectrum is adjacent to PCS spectrum, or the resulting likelihood

²³ NPRM at ¶14.

²⁴ See e.g., CTIA Reply Comments at 3, T-Mobile Comments at 2.

²⁵ Motorola Comments at 12.

that the spectrum will be used for PCS-like services. This likelihood strongly suggests that the spectrum will be valued most highly and used most efficiently if licensed in PCS-like service areas. Not surprisingly, then, this is just what most parties to this proceeding have suggested.²⁶

3G Americas understands that the Commission wishes to strike a balance between allowing as many new entrants as possible (perhaps suggesting geographically smaller license areas) and encouraging the quick use of the spectrum for service to the public (perhaps suggesting geographically larger license areas). But this, of course, is not the first time the Commission has had to strike this balance. During the original PCS rule makings, the Commission was also faced with deciding what size license area would be appropriate and some of its analysis is applicable here. The Commission, there, rejected the use of smaller “MSA/RSA” areas noting that they had been too small when used for the cellular service and had been aggregated into larger areas. Recognizing that this aggregation had needlessly created significant transaction costs, the Commission chose a BTA/MTA licensing regime for the PCS service.²⁷

Here too a BTA-type licensing regime makes the most sense. First, it is likely to be the most efficient and attractive license size as it strikes a balance between small areas that must be aggregated anyway and large areas that may be larger than bidders need. Second, if H-Block is in fact used for PCS services, license areas that align with PCS license areas make sense in that they allow licensees to easily add spectrum to existing

²⁶ As CTIA notes, many parties support “BTA” licensing. CTIA Reply Comments 4-6. CTIA also notes that BTA licensing is not available due to licensing issues with Rand McNally Corporation and offers to work with the Commission to resolve that situation. CTIA Reply Comments at fn. 8.

²⁷ *See In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services*, Second Report and Order, 8 FCC Rcd. 7700 (1993), at ¶¶73-78.

holdings. Third, by allowing partitioning, aggregation and disaggregation of H-Block, the Commission will allow the market to make corrections in any geographic area when a BTA size license is not optimal.

CONCLUSION

The Commission should move expeditiously to adopt service rules to make the H-block spectrum available for auction. However, it should do so in a manner that is truly technologically neutral and that does not place the burden of new spectrum availability on existing PCS carriers and consumers. This means it should adopt technical rules that “fit” the newly available spectrum to the existing spectrum environment. It also means it should reject the SVN proposal to apply new stringent OOB limits to existing PCS bands. Finally, the Commission should take into account the location of H-block spectrum, recognize the likelihood that it will be used for PCS service and, therefore, apply PCS regulatory and licensing framework to H-Block. To do anything else would be impractical and would impose needless costs on manufacturers, carriers, and consumers.

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